

ISSEP

2013 6th

INFORMATICS IN SCHOOLS
SITUATION, EVOLUTION AND PERSPECTIVES

26.02.-02.03.2013

UNIVERSITY OF OLDENBURG
GERMANY

CARL
VON
OSSIEZKY
universität OLDENBURG

WWW.ISSEP2013.ORG

OVERVIEW

TUESDAY

Workshops 1, 2, 5
GI-DDI
Welcome Reception

WEDNESDAY

Welcome Conference Opening / Keynote 1
"Algorithmics and Computational Thinking"
"Informatics in the context of other disciplines"
"Teacher's perspectives"
PC-Meeting

THURSDAY

Keynote 2
"From computer usage to computational thinking"
"Towards Programming Competences"
"Primary Education"
"Towards National Curricula"
Excursion (Neues Gymnasium)
Conference Dinner

FRIDAY

Excursion (CEWE COLOR)
Working Groups
"Games"
"Computational Thinking"
"Competences"
"Different Views"
Closing Session

SATURDAY

Workshop 4

TUESDAY, FEBRUARY 26

12:00 RECEPTION OPEN

A14 Foyer

13:30 WORKSHOPS

WS 1: Integrating School Practice in Austrian Teacher Education

13:30–16:30, A14 1-114, CID pp. 151–152

Lukas Planteu, Bernhard Standl, Wilfried Grossmann and Erich Neuwirth

WS 5: Using Teachers' TryScience to support educators and improve teaching

13:30–16:30, A14 1-115, CID pp. 161–162

Carol Berry and Peter Kusterer

WS 2: BubbleSort, SelectSort and InsertSort in Excel & Delphi – Learning the Concepts in a Constructionist Way

15:00–16:30, A14 0-031, CID pp. 153–154

Jan Benacka

13:30 GI-DDI

Meeting of the CSE chapter of the German Association for CS

13:30–16:30, Senatssitzungssaal

17:00 WELCOME RECEPTION

A14 Foyer

WEDNESDAY, FEBRUARY 27

09:00 CONFERENCE OPENING

A14 1-112

*Prof. Dr. Gunilla Budde, Vice-President of the Carl-von-Ossietzky-University
Prof. Dr. Ira Diethelm, Chair*

09:15 KEYNOTE 1

The Darmstadt Model: A First Step towards a Research Framework for Computer Science Education in Schools
09:15–10:15, A14 1-112, LNCS pp. 1–14
Peter Hubwieser

10:45 ALGORITHMICS AND COMPUTATIONAL THINKING

Session Chair: Ira Diethelm

Novice Difficulties with Interleaved Pattern Composition
10:45–11:05, A14 1-112, LNCS pp. 57–67
David Ginat, Eti Menashe and Amal Taya

Blind Pupils Begin to Solve Algorithmic Problems
11:10–11:30, A14 1-112, LNCS pp. 68–79
Ludmila Jašková

12:00 LUNCH BREAK

13:30 INFORMATICS IN THE CONTEXT OF OTHER DISCIPLINES

Session Chair: Peter Hubwieser

The Context-based Approach IniK in Light of Situated and Constructive Learning Theories
13:30–13:50, A14 1-112, LNCS pp. 103–114
Maria Knobelsdorf and Josh Tenenber

The Contribution of Computer Science to Learning
Computational Physics

13:55–14:15, A14 1-112, LNCS pp. 127–137

Rivka Taub, Michal Armoni and Mordechai Ben-Ari

Computer Modeling with Delphi – constructionism and IBL in
practice and motivation for studying STEM

14:20–14:40, A14 1-112, LNCS pp. 138–146

Jan Benacka and Jaroslav Reichel

16:00

TEACHER'S PERSPECTIVES

Session Chair: Ira Diethelm

Research-Based Learning Revisited: On Using a Delphi
Process in Informatics Teacher Education

16:00–16:20, A14 1-112, LNCS pp. 196–208

Holger Danielsiek, Ludger Humbert and Jan Vahrenhold

Learning Fields in Vocational IT Education – How Teachers
Interpret the Concept

16:25–16:45, A14 1-112, LNCS pp. 147–158

Simone Opel and Torsten Brinda

17:30

PC-MEETING

17:30–18:30, A14 0-031

THURSDAY, FEBRUARY 28

09:00 KEYNOTE 2

Computer Science in secondary schools in the UK: ways to empower teachers

09:00–10:00, A14 1-112, LNCS pp. 15–30

Sue Sentance, Mark Dorling and Adam McNicol

10:30 FROM COMPUTER USAGE TO COMPUTATIONAL THINKING

Session Chair: Nataša Grgurina

Informatics in the French High School Curricula: Recent Moves and Perspective

10:30–10:50, A14 1-112, LNCS pp. 31–42

Françoise Tort and Béatrice Drot-Delange

Informatics for all high school students – computational thinking approach

10:55–11:15, A14 1-112, LNCS pp. 43–56

Maciej M. Syslo and Anna Beata Kwiatkowska

10:30 TOWARDS PROGRAMMING COMPETENCES

Session Chair: David Ginat

Why is programming difficult? -Proposal for learning programming in "small steps" and a prototype tool for detecting "gaps"

10:30–10:50, A14 1-113, CID pp. 13–24

Yayoi Hofuku, Shinya Cho, Tomohiro Nishida and Susumu Kanemune

Test items for and misconceptions of competences in the domain of logic programming

10:55–11:15, A14 1-113, CID pp. 25–34

Barbara Linck

Teaching NP completeness in secondary schools

11:20–11:35, A14 1-113, CID pp. 35–38

Seungyon Kim and Seongbin Park

12:00 LUNCH BREAK

13:00 PRIMARY EDUCATION

Session Chair: Carsten Schulte

"Archaeology of Information" in the Primary School

13:00–13:20, A14 1-112, LNCS pp. 115–126

Diana Bitto and Claudio Mirolo

**Introducing Topics from Informatics into Primary School
Curricula: How do teachers take it?**

13:25–13:45, A14 1-112, CID pp. 41–52

Jiří Vaníček

Environments for programming in primary education

13:50–14:05, A14 1-112, CID pp. 53–60

Monika Gujberová and Peter Tomcsányi

13:00 TOWARDS NATIONAL CURRICULA

Session Chair: Maciej M. Syslo

**A comparison of current trends within Computer Science
teaching in school in Germany and the UK**

13:00–13:20, A14 1-113, CID pp. 63–76

*Valentina Dagiene, Tatjana Jevsikova, Carsten Schulte, Sue Sentance
and Neena Thota*

**Informatics Education in Turkey: National ICT Curriculum and
Teacher Training at Elementary Level**

13:25–13:40, A14 1-113, CID pp. 77–88

Yasemin Gülbahar, Mustafa İlkhani, Selcan Kilis and Okan Arslan

**The New Course of Study and a prospect of information
studies education in Japan**

13:45–14:00, A14 1-113, CID pp. 89–96

Yoshiaki Nakano and Katsunobu Izutsu

14:45 EXCURSION

Visit of a local school (Neues Gymnasium) with informatics education

18:00 CONFERENCE DINNER

*Traditional northwestern German conference dinner with traditional preparatory
walk, named "Kohltour".*

FRIDAY, MARCH 1

08:15 EXCURSION

CEWE COLOR (www.cewecolor.com)

09:00 WORKING GROUPS

*Meeting of former ITiCSE and Koli WGs for CS in secondary education
09:00–10:30, A14 1-115*

11:00 GAMES

Session Chair: Johannes Magenheim

Using Computer Games as Programming Assignments for
University Students and Secondary School Pupils

11:00–11:20, A14 1-112, LNCS pp. 91–102

Monika Tomcsanyiova

Location-based Games in Informatics Education

11:25–11:45, A14 1-112, LNCS pp. 80–90

Gabriela Lovászová and Viera Palmárová

11:00 COMPUTATIONAL THINKING

Session Chair: Ivan Kalaš

The Role of Algorithm in General Secondary Education
Revisited

11:30–11:50, A14 1-113, CID pp. 99–110

Daniel Lessner

An epistemic hypermedia to learn Python as a resource for an
introductory course for algorithmic in France

11:25–11:45, A14 1-113, CID pp. 111–118

Christophe Reffay, Mahdi Miled, Pascal Ortiz and Loïc Février

Computational Thinking in Dutch Secondary Education

11:50–12:05, A14 1-113, CID pp. 119–123

Nataša Grgurina

12:30 LUNCH BREAK

13:30 COMPETENCES

Session Chair: Maria Knobelsdorf

Competence Measurement and Informatics Standards in Secondary Education

13:30–13:50, A14 1-112, LNCS pp. 159–170

Johannes Magenheimer, Jonas Neugebauer, Peer Stechert, Laura Ohrndorf, Barbara Linck, Sigrid Schubert, Wolfgang Nelles and Niclas Schaper

On competence based learning and neuroscience

13:55–14:15, A14 1-112, LNCS pp. 171–184

Peter Antonitsch and Barbara Sabitzer

Categorization of Pictures in Tasks of the Bebras Contest

14:20–14:40, A14 1-112, LNCS pp. 184–195

Martina Kabatova and Monika Tomcsányiová

13:30 DIFFERENT VIEWS

Session Chair: Sue Sentance

A Model for Teaching Informatics to German Secondary School Students in English-language Bilingual Education

13:30–13:50, A14 1-113, CID pp. 127–137

Martin Weise

What you see is what you have in mind: constructing mental models for formatted text processing

13:55–14:15, A14 1-113, CID pp. 139–147

Carlo Bellettini, Violetta Lonati, Dario Malchiodi, Mattia Monga, Anna Morpurgo and Mauro Torelli

16:00 CLOSING SESSION

SATURDAY, MARCH 2

09:00 WORKSHOPS

.NET Gadgeteer

09:00–12:00, A14 0-031, CID p. 159

Sue Sentance and Steve Hodges

USEFUL INFORMATION

TOURIST INFO

www.oldenburg-tourist.de
Tel. +49 (0) 441 3 61 61 3-66

Schloßplatz 16
26122 Oldenburg

open from 9:30–18:00 (16:00 on Sat)

SIGHTSEEING TOURS

On Sat, March 2 at 11:00 and 13:30, no registration
needed, available in English, Dutch and French.
Duration: 1.5 h, Price: 6€ per person

OPENING HOURS

Shops until about 18:00
Grocery/convenience stores until about 22:00
Mensa: 11:30–14:15

NUMBERS

Police, fire department, ambulance: 112

Taxi: +49 (0) 441 63 0 63 or +49 (0) 441 25 0 25

BUS

You received a bus ticket in the conference bag or
can get one at the conference desk for free.



EXCURSION: NEUES GYMNASIUM

Visit of a local school (Neues Gymnasium) with informatics education

BEGIN 15:15

END 16:30

TAXI Please register at the conference desk for shared taxi service

BUS Line 303 (direction "Am Alexanderhaus") or Line 302 (direction "Infanterieweg") to bus stop "Von-Finckh-Straße"

See the bus schedule app on the last page!

ADDRESS Alexanderstraße 90
26121 Oldenburg

WEB www.neuesgymnasium.de



EXCURSION: CEWE COLOR

BEGIN 08:15

END 11:00

TAXI Please register at the conference desk for shared taxi service

BUS Line 312 (direction "Giesenweg")
to bus stop "Hertzstraße"

See the bus schedule app on the last page!

ADDRESS Meerweg 30
26133 Oldenburg

WEB www.cewecolor.de

ABOUT As a technological and market leader in the field of photofinishing, CEWE COLOR is the service partner for first-class brands on the European photographic market. With a staff of more than 3,100 employees and state-of-the-art processing machines, we ensure that billions of photos and millions of CEWE PHOTO BOOKS and photo gift articles leave our product locations every year - just as they were ordered and in the highest standards of quality. Our customers include both retail stores and Internet (e-commerce) dealers - we supply a total of more than 33,000 retail partners in 24 European countries.

We recognised the significance of digital business at an early stage. As a „first mover“ CEWE COLOR has for years now been setting standards in the launch of new digital technologies and products. We constantly generate new impulses on the market: our much-awarded CEWE PHOTO BOOK, photo canvases, photo calendars and greeting cards and also our order software are only a few examples here.

„We will continue to offer the best order and design software on the market, the widest product range and the best photo products through continuously investing in research and product development, optimising our order software and the Internet,“ says CEO Dr. Rolf Hollander. We have also reinforced our digital skills over the past few years and are now one of the leading service companies for digital prints in Europe.

KOHLTOUR & CONFERENCE DINNER

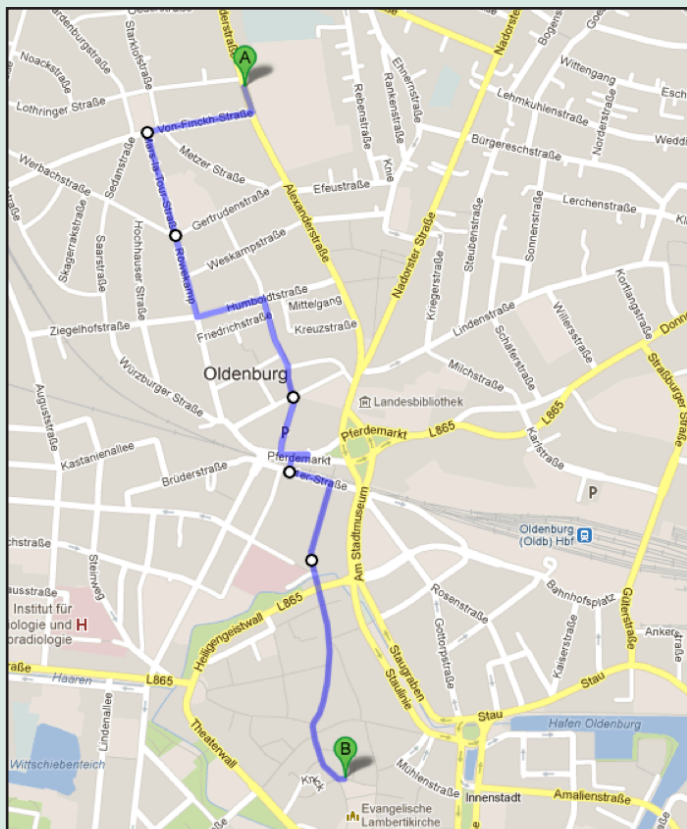
BEGIN WALK | 16:45

BEGIN DINNER | 18:30

END open

ADDRESS Ratskeller Oldenburg, Markt 1, 26122 Oldenburg

WEB www.ratskeller-oldenburg.de





WHAT IS A “KOHLOUR” OR “KOHLEFAHRT”?

Grünkohllessen is an old custom in North Germany and parts of Scandinavia, particularly in the state of Bremen and its surrounding districts of Osterholz, Diepholz, Verden and Rottenburg, in Oldenburg Land, the County of Bentheim, Emsland, Osnabrück Land and East Frisia, in the Middle Weser Region, and also in Hamburg, Cuxhaven, in the Hanover Region, Brunswick Land, in the Magdeburg region, in Westphalia and Schleswig-Holstein.

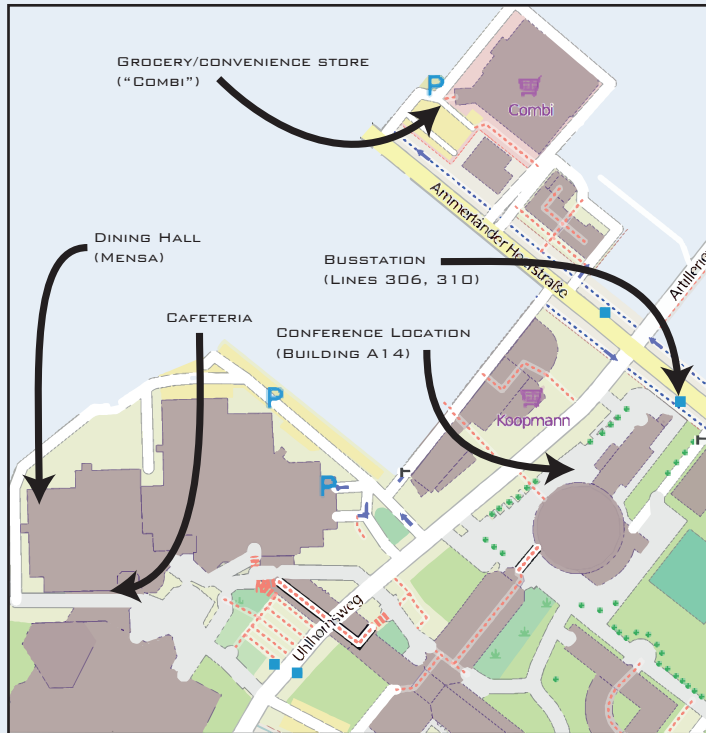
Grünkohl dish with [sweet] baked potatoes, Pinkel, Kochwurst, Kassler, bacon and mustard Grünkohl (locally also known as Braunkohl) is curly-leafed kale, a type of cabbage, traditionally harvested after the first autumn frost. The late harvest of kale ensures that its bitter-tasting constituents have disappeared, although modern kale varieties are generally low on bitter components and are harvested as early as in September.

The participants in a Kohlfahrt (“cabbage walk”) arrange a walk through the countryside to a village pub, usually in mid-winter. Often this walk is linked with cross-country games like Boßeln and the like. As fortification against the frosty weather and in preparation for the hearty meal, an ample supply of alcoholic beverages, such as korn, or for sailors, sherry, is taken in a shopping trolley or handcart, which are handed out as part of the games or at waypoints along the walk (e.g., at crossroads or pylons). At the village pub, the merry walkers are served with Grünkohl and, depending on the region, with [sweet (not to everyone’s taste)] baked potatoes or boiled potatoes and Kassler, Bregenwurst, Pinkel or Kohlwurst. In addition there is also much to drink (beer, Korn) allegedly to aid the digestion. In many areas there is also music and dancing after the meal.

The Grünkohllessen reaches its climax in the proclamation of the Kohlkönig („cabbage king”) or the Kohlkönigspaar (“cabbage couple”). Various methods are used to award the royal title. Either the number of portions consumed is added up, the weight of the participants before and after the meal is measured, or the results of the games during the walk are used. The Kohlkönig is singled out as the last to leave the table. This excludes visits to the toilet or dancing breaks. As a visible sign of royalty, chains with the history of the Kohlkönigs of this group or a pig’s jaw bone with an appropriate inscription are worn. The king or royal couple have the responsibility of organising the following year’s Grünkohllessen. Because many firms, street communities and clubs organise Grünkohllessen in the winter months, the village inns at popular times (Saturdays in January and February) are often fully booked several weeks in advance.

One of the biggest Grünkohllessen events has taken place since 2007 in Hamburg. In the Fish Auction Hall near the St. Pauli Landungsbrücken several regional companies together with the food and drink industry organise a joint event, the so-called Grünkohl-Schlemmerfest, in which over 1500 paying guests take part.

MAP



BUS SCHEDULE

for iOS



for Android

